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DESCRIPTIONS of MALAYAN PLANTS.

By William Jack.

No. II.

DIDYMOCARPUS. (*Wallich.*)

Calyx 5-fidus. *Corolla* infundibuliformis, labio superiore brevi, inferiore trilobo. *Stamina* 5 nunc 4, quorum 2 vel 4 fertilia. *Capsula* siliquaeformis, pseudo-quadrilocularis, bivalvis; dissepimenti contrarii lobi valvulis paralleli iisdemque aemuli, (ideoque fructum bicapsularem mentientes) margine involuto seminiferi. *Semina* minuta nuda, pendula?

Herbae villosae, resinoso-glanduliferae, aromaticae.

Genus Bignoniaceis *Bruen*, admissa *Incarvillea*, adsociandum, huicque proximum. *Wallich.*

I am indebted for the above character of this hitherto unpublished genus to my esteemed friend Dr. Wallich, who has ascertained five species natives of Nepal; the four following have been since discovered in the Malay Islands.

DIDYMOCARPUS CRINITA. (*W. J.*)

Erecta, pilosa, foliis longis spatulatis acutis serratis

subtus rubris, pedunculis 2—5 axillaribus unifloris basi cum petiolo coeuntibus, staminibus duobus fertilibus.

Timmu. *Malay.*

Native of the forests of Pulo Pinang.

Root long and tapering. *Stem* short, erect, thick, rough beneath with the vestiges of fallen leaves. The whole plant is covered with hairs. *Leaves* alternate, crowded, subsessile, long, spatulate, nine or ten inches in length, acute, obtuse at the base, serrated, rugose, hairy, brownish green above, purplish red beneath; middle nerve strong and thick, forming a short petiole at the base. *Stipules* none. *Peduncles* two to five in each axil, one flowered, round, two inches long, uniting at the base into a short thick unilateral rachis, densely pilose, and adhering beneath to the petiole. *Bracts* linear, two, alternate on each peduncle. *Calyx* 5-parted, hairy, reddish, laciniae erect, linear, acute, the upper one smaller. *Corolla* white, tinged with purple externally, much longer than the calyx, infundibuliform; tube somewhat gibbous at the base, incurved, expanding above; limb bilabiate; upper lip two lobed, lower three lobed, larger, internally streaked with yellow, all the segments roundish, obtuse, not very unequal. *Stamina* inserted within the tube, two fertile, with the rudiments of two abortive ones, the former scarcely so long as the corolla, con-

niving at their summits. *Anthers* composed of two divaricate transverse lobes. *Ovarium* linear, surrounded at the base with a white tubular entire nectarial ring or cup, and produced into a tomentose style of the same length as the stamina. *Stigma* obtuse, truncate. *Capsule* long, linear, silique-shaped, cylindrical, acute, somewhat tomentose, an inch long, two valved, two celled; dissepiments contrary, with two lobes which are parallel to the valves, revolute and seed-bearing at their margins, and part the cells in such a manner as to give the appearance of a four-celled siliqua. *Seeds* numerous, naked, small, and subrotund.

Obs. The deep red color of the lower surface of the leaves, and the crested disposition of the flowers in their axils render this a very remarkable species. The aestivation is imbricate, the two lateral lobes of the lower lip being the outermost. The genus is nearly related to *Incarvillea*, but differs in having simple naked seeds.

DIDYMOCARPUS REPTANS. (W J.)

Prostrata, reptans, foliis petiolatis ellipticis crenulatis, pedunculis 1—3 axillaribus unifloris, staminibus duobus fertilibus.

Timmu Kichil. *Malay.*

Found in the forests of Pulo Pinang with the pre-

Stem prostrate, round, villous, striking root at every joint, often a foot in length. *Leaves* lying flat, opposite, petiolate, oblong oval or elliptic, rather obtuse, sometimes slightly cordate at the base, slightly crenate, covered with white hairs, green above, paler and sometimes reddish beneath. *Petioles* villous. *Peduncles* 1–3 axillary, one flowered, erect, as long as the leaves, pilose, furnished with two bracts near the summit. *Calyx* five parted, with erect acute laciniae, the uppermost smaller. *Corolla* white, infundibuliform, bilabiate, similar to that of *D. crinita* but smaller, as well as the whole plant. *Stamina* two fertile conniving above, two sterile. *Anthers* approximate, reniform, two celled. *Nectary* surrounding the base of the ovarium, obsoletely five toothed at the margin. *Style* equal to the stamina. *Stigma* simple. *Capsule* long, straight, silique-shaped, pseudo quadri locular as in the genus. *Seeds* numerous, naked.

DIDYMOCARPUS CORNICULATA. (W. J.)

Erecta, foliis alternis obovatis acuminatis serratis, floribus diandris fasciculatis secundis super pedunculum axillarem elongatum.

Found at Tapanooly in Sumatra.

The stem is nearly erect, from one to two feet in height, herbaceous or somewhat shrubby, villous.

Leaves alternate, petiolate, obovate, acuminate, narrowing to the base, serrated, pilose above, villous below. *Peduncles* axillary, solitary, elongated, bearing several dense fascicles of flowers all turned to one side, depressed or bent at an angle to the peduncle, and spreading in a kind of half circle somewhat in the manner of the *Lotus corniculatus*. *Flowers* many, white; pedicels articulate below the calyx, covered as well as the calyx with glandular hairs. *Bracts* linear, acute. *Calyx* 5-parted, segments linear. *Corolla* white, much longer than the calyx, infundibuliform, wide at the faux, limb somewhat oblique, bilabiate, the lower lip longer, three lobed. *Stamina* two, connected above by their anthers, whose lobes are transverse. *Style* as long as the stamina. *Stigma* capitate. *Capsule* silique shaped, two celled, cells bipartite, (as if 4-locular) two valved, generally bursting at one side, many seeded. *Seeds* naked.

The disposition of the flowers and fruit is peculiar, the capsules spreading horizontally like radii in a sort of semi-circle of which the peduncle is the axis.

DIDYMOCARPUS FRUTESCENS. (W. J.)

Caule suffrutescente erecto, foliis oppositis longe petiolatis ovato-lanceolatis acuminatis supra glabris subtus canescentibus, floribus axillaribus fasciculatis didynamis.

Native of Pulo Pinang.

Stem generally simple, suffrutescent, densely covered with ferruginous appressed scales, or chaffy hairs. *Leaves* opposite, long petioled, ovate lanceolate, acuminate, attenuated to the base, slightly serrated, eight or ten inches long, smooth above, hoary and tomentose beneath, with appressed hairs. *Petioles* three inches long, furrowed above, thickened at the base, villous. *Stipules* none. *Peduncles* axillary, fascicled, 1—3 flowered, shorter than the petioles, purplish. *Bracts* lanceolate acute. *Calyx* tomentose with glandular hairs, tubular, 5-parted, laciniae linear, spreading above. *Corolla* white, tomentose without like the calyx, much longer than it, infundibuliform, incurved; all the laciniae subrotund obtuse. *Stamina* four, didynamous, arcuate, approximate at their summits, each pair connected by their anthers. The filaments of the upper pair are thickened below their middle. *Anthers* white, adnate to the filaments, consisting of two lobes nearly parallel. *Style* of the length of the stamina. *Stigma* truncate. *Capsule* long, linear, silique shaped, two valved, two celled, cells two-parted by the septiform lobes of the dissepiments, which are revolute and seminiferous at their margins. *Seeds* numerous, naked.

SONERILA ERECTA. (W. J.)

Triandria Monogynia.

Erecta, ramosa, foliis lanceolatis serratis, racemis terminalibus paucifloris, floribus sessilibus.

Summow. *Malay.*

Native of the Forests of Pulo Pinang.

Root fibrous. *Stem* erect, from six inches to a foot in height, oppositely branched, round, tinged with red, fringed with two opposite longitudinal lines of hairs (like that of the *Veronica Chamoedrys*). *Leaves* opposite, petiolate, ovate-lanceolate, acute at both ends, serrated, villous with erect hairs, three nerved, green above, reddish beneath. *Petioles* nearly smooth. *Stipules* none. *Peduncles* terminal, springing from the centre of a four leaved verticil which terminates the branch, and of which two opposite leaves are smaller. The spike is unilateral, about four flowered, recurved, smooth; each flower sessile on the upper side of the clavate peduncle, which is there thickened and as it were scooped out to receive it, and is attenuated downwards to the point of insertion into the branch. *Bracts* none or very minute. *Calyx* smooth, trifid, laciniae acute. *Corolla* of a light flesh color, composed of three lanceolate-ovate acuminate spreading petals. *Stamina* three, alternating with the

petals, erect, scarcely so long as the corolla. *Anthers* two celled, acute, cordate at the base. *Style* erect, equal to the stamina. *Stigma* obtuse. *Ovarium* long, linear, inferior. *Capsule* oblong, obtusely three angled, three celled, three valved, many seeded, the dissepiments opposite to the valves. *Seeds* attached to a central columnar three sided placenta.

Obs.—This plant differs considerably in habit from the other species of *Sonerila* in having an erect slender brachiate stem, and small lanceolate leaves, not oblique at the base as in most of the genus.

The uppermost leaves are quatern, forming a kind of involucre to the slender peduncle which springs from their centre.

SONERILA MOLUCCANA. (Roxb)

Subcaulescens, villosa, foliis oblique cordatis integris oppositis altero minore, pedunculis axillaribus, racemis unilateralibus.

Roxb : Fl : Ind : Vol i. p. 122.

Pouh. Malay.

A native of the moist shady forests of Pulo Pinang.

A small herbaceous plant whose root is fibrous, and whose stem does not exceed a few inches in length. Every part is thickly covered with red hair. The *Leaves* are petiolate, opposite, one much smaller and

rounder than the other, unequally cordate, acute, very entire, of a deep green on the upper surface, red beneath, with quintuple nerves. *Petioles* round, and hairy. *Stipules* none. *Peduncles* generally from the axils of the smaller leaves, erect, bearing from one to three unilateral somewhat recurved racemes, and furnished about the middle with two small opposite bracteolar leaflets. The racemes are at first revolute but unroll themselves as the flowers open. The flowers are unilateral arranged in two rows upon short pedicels, and each supported by a linear ciliate bract. *Calyx* superior, covered like the rest of the plant with red hairs, three parted, laciniae lanceolate, acute. *Corolla* white, composed of three petals inserted between the divisions of the calyx, ovate, acute, with a few red hairs along the middle of the under surface. *Stamina* three, alternating with the petals; Filaments linear, ascending; Anthers linear, bending towards the style, yellow, two celled. *Style* declinate in an opposite direction to the stamina. *Stamina* simple. *Capsule* ovate, crowned by the calyx, hairy, three celled, three valved, many seeded, the dissepiments opposite to the valves, the placentae peltate, pedicellate, affixed to the axis of the capsule.

RHOPALA ATTENUATA. (*W. J.*)*Tetrandria Monogynia.**Proteaceae. Juss. and Br :*

Foliis alternis ovatis acuminatis, racemis axillaribus foliis longioribus, pedicellis geminatis calycibusque glabris.

Native of Pulo Pinang.

Arborescent, with round smooth branches. *Leaves* alternate, petiolate, ovate, acuminate, attenuated to the base and decurrent on the petiole, ten or eleven inches long, entire, sometimes with one or two toothlets near the point, very smooth. *Petioles* short, thickened at the base. *Stipules* none. *Spikes* rather longer than the leaves, axillary, cylindrical; flowers geminate, short pedicelled. *Perianth* four leaved, leaflets linear, dilated and staminiferous at the summit, revolute. *Stamina* four, inserted near the apex of the perianth; filaments scarcely any; anthers linear, two-celled. *Style* filiform, as long as the corolla. *Stigma* clavate. *Ovarium* one celled, containing two erect ovula.

RHOPALA MOLUCCANA. (*Br :*)

Foliis alternis obovatis obtusiusculis integerrimis, racemis plerumque lateralibus, pedicellis bifidis calycibusque glabris.

Found in a garden at Pulo Pinang.

Arborescent with grey bark. *Leaves* alternate, petiolate, six or seven inches long, obovate or cuneately ovate obtuse, very entire, very smooth, yellowish green. *Petioles* an inch long, flattened above, thickened at the base. *Spikes* lateral, generally below the leaves. *Flowers* geminate on a bifid pedicel. *Bracts* very small. *Perianth* four leaved, leaflets revolute, dilated and stamen bearing at the summit. *Stamina* four, anthers linear, nearly sessile. *Style* filiform. *Stigma* clavate. *Ovarium* one-celled, two-sporous.

Obs. In the preceding the leaves are acuminate and the flowers in pairs each with its proper pedicel; in this the leaves are rounded and obtuse at the apex, and the flowers are geminate on a common pedicel.

IXORA PENDULA. (W. J.)

N. O. Rubiaceae.

Foliis elliptico-lanceolatis glaberrimis, corymbis longe pedunculatis pendulis.

Bunga yarum. *Malay.*

Native of Pulo Pinang, &c.

A shrub with smooth compressed branches. *Leaves* opposite, short petioled, eleven or twelve inches long, elliptically lanceolate, rather obtuse, very entire, very

smooth, shining above. *Petioles* little more than half an inch in length. *Stipules* interpetiolar, broad at the base, ending in a subulate point. *Corymbs* terminal, long peduncled, hanging, trichotomous, many flowered. *Flowers* red. *Bracts* two, small, at the base of the calyx. *Calyx* small, four-parted, slightly tomentose. *Corolla* red, tube long and slender, limb four parted, lobes ovate-lanceolate, rather acute. *Stamina* spreading, *Style* filiform. *Stigma* clavate.

Obs. This is a beautiful species, at once distinguishable by its long pendulous corymbs. Bunga Yarum is the generic Malay name of the *Ixorae*.

EPITHINIA. (*W. J.*)

Tetrandria Monogynia.

N. O. Rubiaceae.

Calyx cylindricus superus, quadridentatus persistens. *Corolla* tubulosa, limbo patente quadripartito, fauce villosa. *Stamina* exserta. *Stylus* exsertus. *Stigma* bifidum. *Bacca* sulcata, dipyrena, nucibus oblongis dispersis, semine uno super alterum.

EPITHINIA MALAYANA. (*W. J.*)

Found in Mangrove swamps on the Island of Singapore.

A moderate sized shrub with brown bark and smooth branches. *Leaves* opposite, petiolate, obo-

vate, obtuse, rounded at the summit, attenuated at the base into the petiole, very entire, very smooth, almost without veins, shining above, paler beneath. *Stipules* ~~none~~ ^{small, interpetiolar}. *Peduncles* axillary, dichotomous, many flowered, one flowered in the bifurcations. *Calyx* cylindrical, persistent, almost entire or obsoletely four dentate. *Corolla* white, tube longer than the calyx, limb spreading, four parted, lobes ovate, rather acute, faux closed with white hairs. *Stamina* four, exsert, spreading, inserted alternately with the lobes of the corolla; filaments short; anthers linear, acute, dark colored. *Ovary* oblong, compressed, 2 celled, cells two seeded, the one placed over the other. *Style* exsert. *Stigma* bifid, with thick linear lobes. *Fruit* inferior, oblong, marked with eight deep longitudinal furrows, crowned with the calyx, containing two long narrow oblong nuts, each with two seeds, the one placed above the other. One of them sometimes proves abortive.

Obs. I have not been able to refer this to any known tetrandrous genus; it seems to come nearest to *Malaena* of Aublet, but differs in several essential characters. The position of the seeds is peculiar.

MORINDA TETRANDRA. (W. J.)

N. O. *Rubiaceae*.

Tetrandra, pedunculis umbellatis terminalibus, corollis quadrifidis intus hirsutis, foliis lanceolatis.

Pada vara. *Rheed. Mal: 7. p. 51. t. 27.*

Mangkudu kicheel. *Malay.*

Native of the Malay Islands.

A small diffuse shrub, with long slender branches, nodose at the bifurcations. *Leaves* opposite, short petioled, lanceolate, acuminate, very entire, very smooth, the nerves reddish below, and furnished with ciliated glands in the axils. *Stipules* interpetiolar, truncate. *Peduncles* from five to ten, umbellate, terminal. *Flowers* aggregate on a common receptacle. *Calyx* an entire margin crowning the ovary. *Corolla* infundibuliform, four parted, the laciniae densely covered within with long white hairs. *Stamina* four, shorter than the corolla, and alternating with its divisions; filaments very short; anthers oblong. *Ovary* inferior, two-celled, four-seeded. *Stigma* bifid. *Fruit* subglobose, yellow, composed of coadunate berries, angular by their mutual compression, crowned with the vestige of the calyx, four-seeded; seeds osseous.

Obs. Rheed describes his Padavara to be fourteen feet in height; this is the only particular in which it differs from my plant. In every other respect they agree exactly.

MORINDA POLYSPERMA. (*W. J.*)

Tetrandra, pedunculis axillaribus et terminalibus,

corollis quadrifidis intus hirsutis, foliis ovatis acuminatis, baccis bilocularibus polyspermis !

Found on the Island of Singapore.

A shrub with short subdichotomous flexuose branches. *Leaves* opposite, petiolate, ovate, acuminate, obtuse at the base, very entire, very smooth, coriaceous, flat, about three inches long. *Stipules* short, interpetiolar. *Peduncles* axillary and terminal ; axillary ones opposite ; terminal ones from one to four in a kind of umbel. *Capitula* few flowered. *Calyx* an entire margin. *Corolla* infundibuliform, four-parted, densely covered within with white hairs. *Stamina* four, shorter than the corolla ; filaments short ; anthers linear. *Style* erect. *Stigma* bifid. *Berries* coadunate, two-celled, many seeded ! Seeds numerous angular.

Obs. The flowers of this species are perfectly similar to those of the preceding, but the fruit presents a singular anomaly in being polyspermous. Both differ so much from the other species of *Morinda* that I think they might properly constitute a new and distinct genus.

EUTHEMIS. (W. J.)

Pentandria Monogynia.

Calyx inferus 5-phyllus *Corolla* 5-petala. *Stamina* quinque, hypogyna, antheris oblongis acuminatis apice

poro dehiscentibus. *Stylus* filiformis, staminibus equalis. *Bacca* 5-sperma, seminibus circa axim dispositis, oblongis, intus angulatis, arillo fibroso inclusis, albuminis, embryonē inverso cylindrico longitudine fere seminis, radícula superiore.

Frutices, foliis alternis pulcherrime stiatis nervis parallelis, racemis terminalibus, demum peractâ florazione lateralibus et oppositifoliis.

EUTHEMIS LEUCOCARPA. (W. J.)

Foliis lanceolatis pulchre spinuloso serratis, racemis basi ramosis, baccis niveis globosis.

Plawan bruk. *Malay.*

Native of the forests of Singapore.

A shrub of uncommon elegance and beauty, erect, four or five feet in height ; branchlets round, smooth, sometimes slightly angled. *Leaves* alternate, petiolate, lanceolate, acute, decurrent on the petiole, spinuloso-serrate, very smooth and shining, beautifully striated with fine parallel transverse nerves. *Petioles* margined, flat and channeled above, dilated at the base into a thick rounded prominent rim, which half embraces the stem. *Stipules* lanceolate, acuminate, ciliate, very deciduous. *Racemes* erect, with one or two branches near the base, at first terminal, after-

wards lateral and oppositifolious, by the shooting up of the stem from the base of the peduncle. *Flowers* pedicellate, generally in pairs. *Bracts* ovate, acute. *Calyx* inferior, five leaved, spreading, leaflets ovate, obtuse, ciliate, the two inner ones rather smaller. *Corolla* white, sometimes tinged with purple, 5-petaled, petals twice as long as the calyx, reflexed, ovate-oblong, obtuse. *Stamina* five, inserted below the ovarium: alternating with these are sometimes found five short abortive filaments. *Filaments* very short. *Anthers* longer, erect, conniving round the style, oblong, prolonged into acumina which are sometimes a little contorted, and which open at their summits by a pore, the cells are adnate below to the sides of the filament. *Ovary* oblong, acute. *Style* filiform, erect, equal to the stamina. *Stigma* simple. *Berry* snow white, globular, obscurely angled, crowned with the persistent style which is obliquely deflexed; of a spongy or farinose substance, containing in the centre five seeds, which are disposed round the axis, and enclosed in arilli composed of tough longitudinal fibres. *Seeds* (pyrenae?) oblong, somewhat reniform, hard. *Albumen* conform to the seed. *Embryo* inverse, cylindrical, nearly as long as the seed. *Cotyledons* semicylindric, obtuse. *Radicle* superior, longer than the cotyledons.

The branches are terminated by long corniculate buds in which the gemmation is involute.

EUTHEMIS MINOR. (W. J.)

Foliis angusto-lanceolatis leviter serrulatis, racemis simplicibus, baccis rubris angulatis acuminatis.

Found at Singapore along with the preceding.

This is a smaller shrub than the former, branched, and smooth. *Leaves* alternate, petiolate, linear-lanceolate, rather obtuse with a mucro, attenuated to the petiole, slightly serrulate, very smooth, shining, finely striated with transverse veins. *Petioles* short, thickened at the base, channeled above. *Stipules* linear, ciliate. *Racemes* simple, erect, at first terminal, becoming afterwards lateral. *Flowers* alternate, pedicellate, often in pairs. There is a single leaflike bract and several smaller ones at the base of the pedicels, less deciduous than in the preceding. *Calyx* five leaved, leaflets ovate, ciliate. *Corolla* white, spreading, five-petalled, petals lanceolate, acute. *Stamina* five, erect, conniving, hypogynous; filaments very short; anthers yellow, oblong, broader at the base, two celled, cells adnate to the sides of the filament, prolonged above into an acumen opening at the top by a pore. *Ovary* oblong, acute. *Style* a little longer than the stamina. *Stigma* simple. *Berry* red, five-angled, acuminate,

composed of a whitish farinaceous pulp, and containing five seeds, each enveloped in a tough fibrous arillus, and in structure the same as the preceding.

CELASTRUS? BIVALVIS. (W. J.)

Pentandria Monogynia.

Foliis lanceolatis acuminatis integerrimis, pedunculis lateralibus paucifloris, corollis nullis, capsulis bivalvibus monospermis.

A shrub with smooth branches. *Leaves* opposite, petiolate, lanceolate, acuminate, acute at the base, very entire, very smooth. *Stipules* none. *Peduncles* lateral, divaricately dichotomous, few flowered, (5—10 flowered). *Bracts* small. *Calyx* five parted, bibracteate at the base, laciniae roundish, imbricated. *Corolla* none. *Stamina* five, erect, united beneath into a five toothed ring or urceolus; filaments flat; anthers oblong. *Style* erect, as long as the stamina. *Stigma* truncate. *Capsule* ovate, green, smooth, crowned with the style, two valved, one celled, one seeded; valves opening from the base, and falling off from the seed, which is more persistent and remains on the peduncle. *Seed* ovate, contained in a beautiful crimson arillus which is delicately veined. *Albumen* cartilaginous conform to the seed. *Embyo* erect, central, as long.

as the albumen. *Cotyledons* flat, foliaceous, ovate, obtuse. *Radicle* inferior, obverse to the umbilicus, round, much shorter than the cotyledons.

STYPHELIA.

LEUCOPOGON MALAYANUM. (W. J.)

Pentandria Monogynia.

N. O. Epacridace. Br :

Spicis axillaribus multifloris erectis brevibus, drupis globosis 5-ocularibus, foliis lanceolatis mucronatis subnerviis subtus glaucescentibus.

Mintada. *Malay.*

Found abundantly at Singapore.

A small branchy shrub with hard dry leaves exhibiting the peculiar character of this family. *Leaves* alternate, sessile, lanceolate, acute, mucronate, very entire, very smooth, shining and convex above, somewhat glaucous below and when examined by the microscope appearing to be covered with numerous very minute white dots, firm, with scarcely perceptible longitudinal nerves. *Spikes* axillary, erect, much shorter than the leaves; peduncles somewhat tomentose. *Calyx* supported at the base by two oval acute concave bracts, five-leaved, oblong, acute, leaflets lanceolate glaucescent, ciliate. *Corolla* infundibuliform, a little longer than the calyx, quinquefid, puberulent, seg-

ments lanceolate, bearded above beyond the base. *Stamina* five, short, alternate with the *lacinae*; *Filaments* subulate; *Anthers* subpendulous, marked on each side with a longitudinal furrow, simple, and bursting longitudinally in the manner so accurately described by Mr. R. Brown. *Prodr: Fl: N: Holl: p.535. Pollen* globose. *Ovary* surrounded at the base by five distinct erect obtuse scales, five celled, each cell containing a single oblong ovulum. *Style* erect, villous. *Stigma* subglobose. *Drupe* baccate, subglobose, five celled, cells one seeded.

Obs. The discovery of this species is remarkable as forming an exception to the general geographical distribution of the *Epacrideae*, a family almost exclusively confined to Australasia or at least to the Southern hemisphere. Singapore, situated at the extremity of the Malay peninsula, and forming as it were the connecting link between continental or Western India and the islands of the great Eastern Archipelago, partakes of this character in its Flora, which exhibits many remarkable points of coincidence with the Floras of both regions. I have had occasion to observe resemblances between its productions and those of the Northern frontier of Bengal on the one hand, and of the Moluccas on the other, while the present connects it with the still more distant range of New Holland.

RAUWOLFIA SUMATRANA. (W. J.)

*Pentandria Monogynia.**N. O. Apocynaceae.*

Foliis ternis quaternisve elliptico-oblongis superne latioribus glabris, floribus terminalibus umbellatis, corollae fauce villis clausa.

Tampal badak or Simbu badak. *Malay.*

Frequent in the neighbourhood of Bencoolen.

It grows to a small tree, having somewhat the habit and foliage of the Mangga laut, or *Cerbera manghas*. The whole plant is lactescent. *Leaves* verticillate generally in threes sometimes in fours, short petioled, about six inches long, elliptic oblong, broader above and terminating in a short point, very entire, very smooth, rather firm, and having nearly transverse nerves. *Peduncles* three or four, umbellate, terminal, long, round and smooth, bearing compound umbels of small white flowers. *Calyx* small, five lobed. *Corolla* white, tube longer than the calyx, limb spreading, five parted, lobes subrotund, fauce closed with white hairs which appear to form five tufts. *Stamina* five incluse; filaments very short; anthers yellow, sagittate, acute, conniving over the stigma. *Ovary* furrowed on both sides, two celled, tetrasporous, surrounded by an obscurely five-lobed nectarial ring. *Style* two

united together. *Stigma* peltate, capitate, glutinous, papillous. *Berry* globose, smooth, containing two nuts, which are compressed, rugose, gibbous below and tapering towards the top, subunilocular with an imperfect dissepiment; generally one seeded. *Seed* compressed.

Obs. This species appears to have considerable resemblance to *Rauwolfia nitida*, but is sufficiently distinguished by its inflorescence. The wood of this tree is very light, and employed by the Sumatrans for the scabbards of their swords and krises.

TACCA CRISTATA. (W. J.)

Foliis indivisis lato-lanceolatis, involucro diphylo, umbella secunda cernua superne intra involucrum foliolis duobus involucro duplo longioribus stipata.

Native of Singapore and Pulo Pinang.

Root thick and tuberous, sending out a number of fibres. *Leaves* nearly two feet long, numerous, radical, erect, petiolate, ovate-lanceolate, acute, entire, smooth. *Petioles* sheathing at the base. *Scape* erect, round, nearly as long as the leaves, striated, smooth. *Flowers* peduncled, all drooping to one side; peduncles sub-umbellate, arranged transversely in two parallel rows, and uniting into a kind of crest, from which proceed ten long pendulous filaments. *Involucre* two leaved,

leaflets ovate, acute, broad at the base, nervose, purplish, twice as long as the peduncles, the upper one erect, the lower reflexed and bent down by the drooping flowers. From within the upper leaflet of the involucre spring two erect folioles, which are twice as long as the involucre, obovate, attenuated below into straight flat deep purple petiolar unguis, acute at the apex, pale colored with purplish nerves. *Perianth* superior, of a dark purple color, campanulate and somewhat ventricose, rather contracted and three cornered at the mouth where it is also striated, limb six-parted, somewhat reflex, laciniae hyaline, oblong, broad, obtuse, the three interior ones larger. *Corolla* none. *Stamina* six, in the bottom of the perianth and opposite to the laciniae. *Filaments* broad at the base, arching upwards into a vaulted cucullus within which the anthers are concealed. *Anthers* adnate, two lobed. *Style* thick, shorter than the stamina, with six prominent angles. *Stigma* flat, umbilicate, orbicular, six rayed, three alternate sinuses deeper. *Berry* ovate, six angled one celled, seeds numerous, attached to three parietal receptacles.

Obs. This approaches to *T. integrifolia*, *Curt. Mag.* t. 1488, but is a much larger plant, and is abundantly distinguished by the two leaved involucre, the long erect leaflets within it, and the flowers drooping to one side.

VERATRUM? MALAYANUM. (W. J.)

Foliis radicalibus lanceolatis, scapis erectis verticillato-paniculatis, baccis trilocularibus.

Native of Pulo Pinang.

An erect herbaceous plant. *Leaves* radical, three or four feet in length, petiolate, lanceolate, acuminate, attenuated into a petiole at the base, very entire, tomentose, striated with parallel nerves which run nearly longitudinally but diverge from a central one. *Petioles* canaliculate, obtusely carinate, sheathing at the base. *Scape* erect, round, tomentose, verticillately panicled. *Peduncles* alternately semiverticillate divaricate and spreading. *Flowers* sessile, on hermaphrodite or male plants fascicled, on female solitary. Beneath each semiverticil is a large floral leaf, which is ovate, acute, and contracted at the base into a flat, straight, petiole-like unguis which embraces the stem. *Perianth* six-parted, the three inner laciniae petaliform, white, spreading. *Stamina* 6; filaments flat, dilated at the base. *Styles* three, short. *Stigmata* three.

In the female the calyx embraces a globular berry which is three celled, each cell one seeded.

Obs. The true place of this plant is somewhat ambiguous, and I am doubtful whether it can be admitted as a genuine species of *Veratrum*. It does not

however agree exactly with any other genus of the same family ; in habit it is somewhat like *Alisma*.

MEMECYLON COERULEUM. (W.J.)

Octandria Monogynia.

Foliis cordatis amplexicaulibus, pedunculis axillaribus brevibus, pedicellis oppositis divaricatis brevibus, fructibus ovatis.

Kulit nipees. *Malay.*

Native of Pulo Pinang.

A handsome shrub of 10 or 12 feet in height, with round smooth branches. *Leaves* opposite, subsessile, about five inches in length, cordate, amplexicaul, oblong, acute, very entire, margin reflexed, coriaceous, very smooth, deep green and shining above, lateral nerves inconspicuous uniting at their extremities into a line which runs parallel to the margin. *Stipules* none. *Peduncles* axillary, solitary, short few flowered; pedicels short and thick, opposite, somewhat, verticillate, divaricate, forming a kind of corymbiform head. *Flowers* blue. *Bracts* opposite, short, acute. *Calyx* superior, colored, smooth, nearly entire, becoming by age more distinctly four-toothed. *Corolla* deep blue, four petalled, spreading, petals broad, ovate, acute. *Stamina* eight, erect, shorter than the corolla. *Filaments* short. *Anthers* blue, attached by their middle, horizontal,

shaped somewhat like the head of an axe, with a knob behind; cells parallel on the anterior edge. Before expansion the anthers are bent downwards (somewhat in the manner of the *Melastomae*) and the surface of the germen and bottom of the calyx are marked with their impressions, of which the four inner are the deepest; the ridges between them form 8 sharp prominent rays, and there are 8 other less conspicuous lines formed by the faces of the bilocular anthers. *Ovarium* ovate, one celled, containing from 6 to 8 erect ovula. *Style* filiform, a little longer than the stamina. *Stigma* acute. *Berry* cortical, crowned by the persistent calyx, ovate, a little oblique at the base, one seeded, the rudiments of the abortive ovula surrounding the umbilicus. *Seed* ovate, umbilicate at the base and a little oblique. *Albumen* none. *Embryo* erect. *Cotyledons* membranaceous, contortuplicate. *Radicl*e cylindrical, nearly as long as the seed, obverse to the umbilicus.

Obs. The different species of *Memecylon* have not been well defined by authors; this appears to differ from *M. cordatum* Lamarek and *M. grande*. Retz: or *Nedum schetti*. *Rheed. Mal: II. p. 21. t. 15*, in having ovate not globose fruit, and in the flowers not being umbelled. In the latter the flowers are small, yellow and numerous, in this they are larger, blue, and much fewer in number. D 2

LAURUS PARTHENOXYLON. (*W. J.*)*Enneandria Monogynia.*

Foliis venosis ovatis acutis petiolatis subtus glaucis, paniculis brevibus paucifloris axillaribus et lateralibus, fructu globoso calyci truncato insidente.

Kayo Gadis. *Malay.*

Abundant in the forests of Sumatra.

This is a lofty timber tree. *Bark* brown and rough. *Leaves* alternate, rather long petioled, ovate, acute, often acuminate, and varying in breadth, about three inches long, entire with somewhat revolute edges, smooth, glaucous beneath, nerves lateral and irregularly alternate. *Petioles* round, an inch long. *Peduncles* from the young shoots at the extremity of the branches, axillary or lateral, terminated by a short, few flowered panicle, and generally longer than the young leaves from whose axils they spring. - *Bracts* none. *Perianth* funnel shaped, six-parted, yellowish. *Stamina* nine, arranged in two rows, the outer six naked, the inner three furnished at the base with two yellow glands; filaments flat; anthers adnate, the cells opening with a longitudinal valve or operculum. *Style* as long as the stamina. *Stigma* obtuse, 4-cornered. *Drupe* seated on the enlarged cupshaped persistent truncated base of the perianth, globose, containing a

one seeded nut. *Embryo* inverse. *Cotyledons* hemispherical. *Radicle* superior, within the edge of the cotyledons.

Obs. This species has considerable affinity to *L. cupularia*. The fruit has a strong balsamic smell, and yields an oil, which is considered useful in Rheumatic affections, and has the same balsamic odour as the fruit itself. An infusion of the root is drank in the same manner as Sassafras, which it appears to resemble in its qualities. The wood is strong and durable when not exposed to wet, and in that case considered equal to Teak. Kayo Gadis signifies the virgin tree, whence the specific name.

May this be the Oriental Sassafras wood mentioned under the article Laurus in Rees' Cyclopedia?

GOMPHIA SUMATRANA. (W. J.)

Decandria Monogynia.

N. O. Ochnaceae.

Foliis lanceolatis vel oblongo-ovalibus acuminatis obtuse denticulatis nitidis subquinque nerviis, stipulis intrapetiolearibus deciduis, paniculis terminalibus.

Sibooru. *Malay.*

Sumatra.

A large shrub or small tree. *Leaves* alternate, short

petioled, eight or nine nerves in length, from lanceolate to oblong oval, varying considerably in breadth from two to three inches, acuminate, acute at the base, obtusely denticulate, very smooth, shining, middle nerve very strong, lateral veins numerous, transverse, somewhat reticulate, delicate, uniting near each margin into two nerves which run parallel to it almost the whole length and give the leaf the appearance of being five-nerved. *Petioles* very short. *Stipules* intrapetiolar, broad at the base, acuminate, deciduous. *Panicles* terminal, not much branched; pedicels slender, rarely solitary, surrounded at their bases by small acute bracts. *Calyx* five leaved, persistent, leaflets ovate, acute, smooth, lucid. *Corolla* yellow, five-petalled, scarcely longer than the calyx. *Stamina* ten; filaments very short; anthers long, linear, opening at the top by two pores. *Style* as long as the stamina. *Stigma* acute. *Ovaries* five, surrounding the base of the style, and elevated on a receptacle. This receptacle enlarges as the fruit ripens. The number of abortive ovaries is variable; sometimes only one comes to perfection. The berries are drupaceous, obliquely reniform, somewhat compressed, one-seeded. Seed exalbuminous.

Obs. This appears to have so much resemblance to the *G. Malabarica*, *Decand* : Pua Tsjetti. *Rheed. Mal. V. p. 103. t. 52,* that I have some hesitation in

proposing it as a distinct species. The points of difference are the following; the leaves of this are much longer than those of the Malabar species which are described as almost veinless while in this the transverse veins unite into two very distinct marginal nerves, which it is difficult to suppose could have escaped observation had they existed in the other. The representation of the inflorescence in Rheeds figure is unintelligible, and his description of it is not much clearer, but as far as it can be made out, it appears different from this. Further examination of the Malabar plant will be necessary to determine whether this is really distinct, and whether the differences above noticed exist in the plant itself, or are mere omissions in the description.

MURRAYA PANICULATA.

Decandria Monogynia.

N. O. Aurantiae.

Foliolis ovatis acuminatis, floribus terminalibus axillaribusque subsolitariis, baccis oblongis saepius dispersis.

Chalcas paniculata, *Lour : Fl : Coch : p. 270.*

Camunium. *Rumph : Amb : V. p. 26 t. 17.*

Kamuning. *Malay.*

This is an abundantly distinct species from *M. exo.*

tica, though unaccountably confounded with it by later authors. Loureiro discriminates between them very well, and his description is on the whole good. Rumphius's figure is bad, but preserves several of the distinguishing characters, particularly in the inflorescence and leaves, which however are not sufficiently acuminate. It grows to the size of a small tree, and the wood is much employed for the handles of kreeses being capable of receiving a fine polish. The leaflets are generally five, ovate, terminating in a long acumen which is slightly emarginate at the point, shining and very entire, the terminal one considerably the largest. In *M. exotica*, the leaflets are more numerous and closer, obovate, blunt, and of a much firmer thicker substance. The flowers of *M. paniculata* are fewer and larger than those of *M. exotica*, and are sometimes terminal, generally one or two together from the axils of the upper leaves. The ovarium is two celled ; the berries are oblong, reddish, and mostly contain two seeds which are covered with silky hairs. The berries of *M. exotica* are ovate and generally one seeded. The whole habit of the two plants is very distinct. The specific name *paniculata* is objectionable, as the flowers are much less paniced than in the other species.

The *Camunium sinense*, *Rumph. V. t. 18. f. 1.* which is commonly met with in gardens in all the Malay Islands is quite a distinct genus from the other two *Ca-*

muniums, and has been described by Loureiro, *Fl. Cochinch : I. p.* 173, under the name of

AGLAIA ODORATA.

It has a five parted inferior calyx, and five petalled corolla. The stamina are five in number, and are inserted in the manner of the *Meliaceae* on the inside of an ovate nectarial tube, which is contracted at the mouth, and conceals the anthers. The stigma is large, sessile, simple as far as I have observed, not double as stated by Loureiro. The ovary appears to be one celled, and to contain two pendulous ovula. It rarely ripens its fruit in these Islands, but according to Loureiro it bears a small red one-seeded berry. The flowers are very small, yellow and fragrant, in small axillary panicles.

In the Catalogue of the *Hortus Bengalensis* p. 18, this plant is specified under the name of *Camunium Sinense* after Rumphius. The *Murraya paniculata* above described is the true Kamuning of the Malays, and the name *C. Sinense* is only applied by Rumphius in the manner of the older botanical authors, as one of comparison and resemblance for want of a better of native origin ; if therefore the generic name *Camunium* is to be adopted at all, it ought to be applied to the plant to which it really belongs, and cannot be ad-

mitted for one of a different family not indigenous to the Malay Islands. On this account Loureiro's name is to be preferred.

RHIZOPHORA CARYOPHYLLOIDES. (*W. J.*)

Dodecandria Monogynia.

Fruticosa, foliis ovato-lanceolatis utrinque acutis, pedunculis axillaribus trifloris, rarius dichotome quinquefloris, floribus 8-fidis, radiculâ subcylindricâ acutiuscula.

Mangium Caryophylloides, *Rumph : Amb : III. p. 119. t. 78.*

Found at Singapore and Pulo Pinang.

This is a much smaller shrub than the common Mangrove, and does not divide its roots so much. It is generally found in shallow sandy salt marshes, rising with a tolerably erect stem and branched nearer to the base than the common species. *Leaves* opposite, petiolate, about four inches long, oval or ovate-lanceolate, acute at both ends, sometimes slightly inequilateral, very entire, very smooth, coriaceous; the lower surface appearing under the lens dotted with minute white points. *Petioles* round, furrowed above, smooth. *Stipules* long, enveloping the coriculate buds in the manner of the *Ficus*, very deciduous. *Peduncles* axilla-

ry, solitary, three-flowered, shorter than the petioles ; sometimes they are are dichotomously five flowered, having a flower in the bifurcation. *Calyx* semi-inferior, surrounding the ovary, ovate, limb eight parted, spreading, laciniae linear, acute, thick, rather incurved at their points. *Corolla* white, eight petalled, petals nearly erect, alternate with the laciniae of the calyx, conduplicate, inclosing the stamina by pairs, bifid, furnished with a few threads or filaments at the point, ciliated on the margin. *Stamina* double, the number of the petals inserted on the calyx in a double series, the inner ones shorter, erect, not so long as the petals, enfolded by them until the period of complete expansion, when they burst from their recesses with an elastic force, and disperse their pollen. *Anthers* linear, acute, two celled. *Ovarium* contained within the calyx, two celled, tetrasporous ; ovula subrotund, affixed near the top of the cells. *Style* filiform, as long as the stamina. *Stigma* bifid with acute laciniae. *Fruit* contained in the persistent calyx, one seeded, the other three ovula proving abortive. The seed is at first ovate or roundish, with conform albumen, the embryo inverse, in the upper part of the seed. As the fruit advances, the radicle is elongated and becomes at length nearly cylindric, obsoletely angled, and rather acute at the point. I have generally found three cotyledons, rarely four.

Obs. Rumphius's figure is by no means a good representation of the plant, but his description of it is correct. It comes nearest to the *R. cylindrica*, Kari Kandel, *Rheed, Mal : VI. p. 59. t. 33*, which differs from this in having the radicle very obtuse and more exactly cylindrical, and the peduncles generally one or two flowered. According to Rumphius this species is rather rare, and is called Mangi Mangi Chenke or Clove Mangrove, whence his appellation *Caryophylloides* which I have thought proper to retain, as the resemblance holds good in some particulars.

ACROTREMA. (*W. J.*)

Dodecandria Trigynia.

Calyx pentaphyllus. *Corolla* pentapetala patens. *Stamina* ¹⁵⁻²⁰ ~~quindecim~~, erecta, filamentis brevibus, antheris longis linearibus apice biporis. *Ovaria* tria, distincta, ²⁻³ spora, ovulis angulo interiori affixis. *Styli* tres. *Stigmata* simplicia. *Capsulae* uniloculares. *Semina* ~~anillata~~

Herba acaulis, pilosa, pedunculis racemoso-multifloris.

Genus *Saxifrageis* affine, numero partium inusitato distinctum.

ACROTREMA COSTATUM. (*W. J.*)

Found on hills, and among rocks at Pulo Pinang.

Root tapering, sending out a few fibres. *Stem* scarcely

any. *Leaves* alternate, spreading, short-petioled, six inches long, oblong-obovate, obtuse, sagittate at the base, dentato-serrate, somewhat ciliate, pilose, furnished with a short tomentum and also with more remote longer appressed hairs; the nerves are very hairy, parallel, and terminate in the denticulae of the margin. *Petioles* short, sheathing; their margins dilated into membranaceous auricles which might be considered as adnate stipules. *Peduncles* or scapes central, erect, from three to six inches high, pilose, recurved at the summit, eight or ten flowered. *Flowers* yellow, pedicellate, racemose. *Calyx* five leaved, pilose, leaflets ovate acute. *Corolla* yellow, spreading, five petalled, petals broader above, lanceolate. *Stamina* fifteen, erect, hypogynous; filaments very short. *Anthers* very long, linear, two celled, opening by two pores at the top. *Ovaries* three, distinct, superior, one celled, two seeded, each bearing one style of the height of the stamina. *Ovula* attached to the inner angles. *Stigmata* simple. *Capsules* three. *Ledy's atillu*

Obs. I am at a loss to determine the exact affinities of this plant; it has the habit of the Saxifrageae, but the number of both the male and female parts of fructification is greater by one third, and the ovaries are distinct.

LAGERSTROEMIA FLORIBUNDA. (W. J.)

Icosandria Monogynia.

Folijis suboppositis ovato-oblongis glabris, paniculis terminalibus ramosissimis multifloris ferrugineo-vellosis, staminibus inequalibus calycibus turbinatis sulcatis.

Found at Pulo Pinang.

A tree. *Leaves* subopposite, short petioled, rather recurved, seven or eight inches long, ovate-oblong, somewhat acute, entire, smooth, with strong prominent nerves and reticulate veins. *Panicle* terminal, much branched, spreading, many flowered. *Peduncles*, pedicels and calyces ferruginous, densely villous with stellate hair. The *flowers* are smaller than those of *L. Reginae*, but much more numerous and in much larger panicles, pale rose color on their first expansion, and passing through various gradations of intensity until at length they become nearly purple. *Calyx* covered with ferruginous wool turbinate, regularly marked with many deep longitudinal furrows or ribs, giving it a fluted appearance, limb spreading six parted. Before expansion the calyx is obconical and nearly flat at the top. *Corolla* six petalled, spreading, petals inserted by short unguis alternately with the segments of the calyx, ovate, not much undulated. *Stamina*

red, numerous, inserted on the calyx, six of them longer, thicker and more conspicuous than the rest. *Ovary* thickly covered with white hair, six celled, many seeded. *Style* erect. *Stigma* clavate.

Obs. This beautiful and splendid species may be readily distinguished from the *L. Reginae* by the greater size of the panicles, and their ferruginous color. The flower buds in that species represent in some degree a double cone, in this a single inverted cone, being flat and even depressed at top. The *L. hirsuta Lam.* is also quite distinct from this, having hirsute leaves.

TERNSTROEMIA RUBIGINOSA. (W. J.)

Polyandria Monogynia.

Foliis ovatis spinuloso-serratis subtus incanis floribus lateralibus et axillaribus fasciculatis, monadelphis pedunculis calycibusque glanduloso-pilosis, fructu trilobulari.

S'eengo eengo. *Malay.*

Sumatra.

A tree. *Branches* cinereous, young parts covered with acute scales. *Leaves* alternate, petiolate, ovate, acuminate, spinuloso-serrate, smooth above, hoary and white beneath, the nerves furnished with ferruginous paleaceous scales. *Flowers* in fascicles, lateral and axil-

lary. *Peduncles* and calyces covered with glandular hairs. *Bracts* small about the middle of the peduncles. *Calyx* five-parted. *Corolla* white, campanulate rotate, five-parted, divided about half way down. *Stamina* numerous ; filaments short, united at the base into a ring which is inserted on the bottom of the corolla ; anthers oblong, recurved, affixed by the middle, two celled, opening at the top by two oblique pores. *Ovary* ovate, acute, covered with glandular hairs, three-celled, polyspermous, placentae central. *Style* trifid, divided to the base. *Stigmata* simple.

TERNSTROEMIA PENTAPETALA. (IV. J.)

Foliis obovato-lanceolatis spinuloso denticulatis glabris, floribus lateralibus fasciculatis, pedunculis glabris fructu triloculari.

Native of Pulo Pinang.

A shrub with grey bark and leafy at the summit. *Leaves* alternate, petiolate, 10 to 12 inches long, obovato-lanceolate, acuminate, spinuloso-denticulate, smooth ; the nerves are furnished with a few appressed, innocuous scale-like spines. *Petioles* about an inch in length, covered as well as the summits of the branches and buds with small ferruginous scales. *Flowers* in fascicles below the leaves from the axils of the fallen ones of the preceding year ; they are pedicellate and white. *Calyx*

colored, five leaved, the two outer leaflets smaller. *Corolla* white, five petalled, petals subrotund, a little longer than the calyx. *Stamina* numerous, distinct, inserted on the base of the petals; filaments short; anthers oblong, yellowish white, didymous, truncate at the top and there opening by two pores. *Ovarium* ovate, three celled, many seeded, placentae from the inner angles of the cells. *Style* deeply trifid (*Styles* 3?) *Stigmata* three.

I have not seen the ripe fruit of this, but have been informed that it produces a white berry.

ELAEOCARPUS NITIDA. (W. J.)

Polyandria Monogynia.

Foliis ovato lanceolatis, serratis, racemis axillaribus foliis brevioribus staminibus quindecim, nuce quinqueloculari, loculis plerumque quatuor abortivis.

Bua Manik. *Malay.*

Native of Pulo Pinang.

A tree of moderate size, with grey bark and round smooth branches. *Leaves* alternate petiolate, three or four inches long, ovate lanceolate, acuminate, obtusely serrate, attenuated to the base, very smooth. *Stipules* none. *Racemes* simple, axillary, secund, shorter than the leaves. *Flowers* white, short-pedicelled. *Calyx* deeply five parted, laciniae linear, acute. *Corolla* five petalled, fimbriated at the summit. *Necta-*

ry of five yellow retuse glands surrounding the ovary. *Stamina* fifteen, erect; ten are inserted by pairs between the glands of the nectary, the remaining five between those glands and the ovary. *Anthers* linear, bilamellate at the summit. *Style* as long as the calyx. *Stigma* simple. *Drupe* globose, containing a five celled nut, which is rugose, and marked with five obtuse longitudinal ridges; in general only one cell is fertile and contains a single seed. *Seed* furnished with albumen; embryo inverse, with flat cotyledons and superior radicle.

Obs. This may perhaps be one of the smaller varieties of *Ganitrus* mentioned by Rumphius; it differs from *E. Ganitrus* of Roxburgh, who quotes Rumphius *III. t. 10*, in the number of the stamina, the position of the racemes, and the number of fertile cells in the nut. Compare *Adenoda sylvestris*, *Loureiro Fl. Cechinch: p.* which agrees in the number of the stamina. I suspect Gaertner must have fallen into an error in representing the embryo erect in his *Ganitrus*; in this it is certainly inverse.

MONOCERA. (IV. J.)

Elaeocarpi species.

Calyx pentapetalus. *Corolla* pentapetala, petalis apice laciniatis, saepe sericeis. *Stamina* plura, antheris

apice dehiscentibus, unicornibus valvula ^{al}laterâ majore. Ovarium basi glandulis cinctum, biloculare, polysporum. Drupa nuce 1—2 sperma.

This genus whose characters appear to be sufficiently distinct, will include, besides the following new species, several hitherto referred to *Elaeocarpus*, viz. *E. Monocera*, *Cavanilles*, the separation of which has already been suggested and of which the specific name may be appropriately adopted for the genus, *E. rugosus*, *E. aristatus*, and *E. bilocularis* of *Roxburgh*, probably also *E. grandiflora* and *E. reticulata*, *Sir J. E. Smith* in *Rees' Cyclopaedia*. The *E. dentata*, *Dicera dentata*, *Forst*: may also belong to this, if, as remarked by *Sir J. E. Smith*, *Rees' Cycl: in loco*, the anthers have only one of their valves awned, not both equal as originally stated by *Forster*. His capsule may perhaps be only the ovary, which will then agree with the present genus.

MONOCERA PETIOLATA. (W. J.)

Foliis longe petiolatis ovato-lanceolatis integris glabris, racemis axillaribus foliis brevioribus, petalis medio intus incrassatis villosis.

Native of Pulo Pinang.

A lofty tree. Leaves petiolate, alternate or scattered, eight or nine inches long exclusive of the petiole,

ovate lanceolate, generally obtusely acuminate, entire, very smooth, deep green and shining above, with lucid nerves and veins which are destitute of glands. *Petioles* four inches long, smooth, thickened at the base and summit. *Racemes* axillary, as long as the petioles ; flowers pedicellate, turning one way. *Calyx* white, five leaved, leaflets lanceolate acuminate. *Corolla* white, five petalled, as long as the calyx, petals ovate-lanceolate, fringed at the point, sericeous without, thickened along the middle and covered with white hairs within, margins inflexed. Ten thick subrotund yellow glands surround the stamina. *Stamina* numerous, (25—30) inserted within the glands, erect, shorter than the petals ; filaments short ; anthers longer, linear, bivalved at the apex, the outer valve elongated, the inner short and acute. *Style* filiform, longer than the stamina. *Stigma* acute. *Ovary* ovate, two celled, many seeded. *Drupe* ovate, containing a smooth one celled, 1-2 seeded nut.

MONOCERA FERRUGINEA. (W. J.)

Foliis oblongo ovatis acuminatis integris subtus cum pedunculis ramulesque ferrugineo villosis, racemis axillaribus foliis brevioribus.

Found at Singapore.

A tree. *Branchlets* rusty and villous. *Leaves* irre-

gularly alternate, petiolate, oblong-ovate, acuminate, six or seven inches long, entire with revolute edges, smooth above, ferruginously villous below, nerves without glands. *Petioles* from two to two and a half inches long, villous and ferruginous, thickened under the leaf. *Racemes* axillary, shorter than the leaves. *Flowers* pedicelled. *Peduncles* and pedicels ferruginous. *Drupe* oval, of the form of an olive but smaller, with a single rather smooth nut, which generally contains but one perfect seed; sometimes there is a second smaller, and the vestiges of the partition and abortive ovula can almost always be observed. *Seed* oblong, pointed above. *Albumen* conform; *Embryo* inverse, extending nearly the whole length of the albumen. *Cotyledons* flat, oblong, with a distinct nerve along their middle. *Radicle* superior clavato cylindrical, much shorter than the cotyledons.

Obs. I have not seen the flowers of this species but its fruit and general resemblance to the preceding leave no doubt as to the genus, and its characters are sufficiently marked to distinguish it from the others.

TETRACERA ARBORESCENS. (W. J.)

Polyandria Tetragynia.

Foliis obovatis integerrimis glabris, floribus paniculatis axillaribus et terminalibus, calycibus pentaphyllis.

Found near the shores of the Bay of Tapanooly in Sumatra.

An arborescent climber

~~Arborescent~~ Leaves alternate, petioled, about three inches long, oblong-obovate, rounded at the apex and terminating in a short point, very entire with reflex edges, smooth, shining above, coriaceous and firm, veins reticulate, nerves somewhat pilose on the under surface. Petioles short. Panicles axillary and terminal, many flowered. Calyx five leaved, spreading, persistent, *capitate ciliate, corolla 5-petalled.* smooth. Stamina numerous. Capsules generally three, smooth and shining, roundish ovate. opening on one side containing a single seed attached to the base of the capsule and enveloped in a pale yellowish laciniate arillus. The vestiges of two or three abortive ovula are observable in the bottom of the capsule.

UVARIA HIRSUTA. (W. J.)

Polyandria Polygynia.

Tota hirsuta etiam calyces fructusque pilis erectis, floribus subsolitariis, petalis patentibus subequalibus, foliis ovato oblongis basi cordatis.

Pulo Pinang.

The whole plant is hirsute with long erect hairs. Branches round. Leaves alternate, short-petioled, o-

vate-oblong, acuminate, cordate at the base, entire, simply pilose above, hirsute beneath with stellate fasciculate hairs. *Flowers* lateral, almost solitary, short-peduncled. *Bracts* lanceolate acute. *Calyx* hairy as well as the peduncles and bracts, bursting irregularly, often into two segments. *Corolla* of a deep red color, six petalled, petals spreading lanceolate acute. *Stamina* numerous with long linear anthers. *Germina* numerous; styles and stigmata the same. *Berries* numerous, long pedicelled, oblong, hirsute with ferruginous hairs, many-seeded. *Seeds* arranged in a double longitudinal series.

CAREYA MACROSTACHYA. (W. J.)

Monadelphica Polyandria.

Arbor, foliis petiolatis obovatis subserratis racemis lateralibus ²²nectantibus densissime multifloris, floribus sessilibus multi seriatis.

Pulo Pinang.

A tree, with gray bark, and smooth branches. *Leaves* alternate or scattered, petiolate, obovate or oblong-ovate, acuminate, sometimes obtuse with an acumen, narrowing to the base, slightly serrated, very smooth. *Petioles* roundish thickened at the base. *Stipules* none. *Racemes* or spikes lateral, hanging, thick, massive,

cylindrical, densely covered with flowers, which are sessile, and arranged in numerous spiral lines; the whole is eight or ten inches in length. *Bracts* none. *Calyx* superior, purple, four parted, laciniae rounded, smooth, somewhat ciliated on the margin. *Corolla* purplish red, longer than the calyx, four petalled, petals ovate, obtuse, inserted into the base of the calyx. *Stamina* white, very numerous, longer than the corolla, united at the base into a thick ring. *Anthers* yellow, didymous, the lobes bursting on opposite sides, so as to give the whole the appearance of a double four-celled anther. *Nectary* surrounding the style within the stamina, hypocrateriform, red and striated within, yellow and entire on the margin. *Ovarium* inferior four celled many seeded; about four seeds in each cell attached to its upper and inner angle. *Style* red, as long as the stamina. *Stigma* simple. *Fruit* a berry or pome.

Obs. The inflorescence of this tree is very remarkable, and quite different from the the other species of *Careya*.

CLERODENDRUM DIVARICATUM. (W. J.)

Didynamia Angiospermia.

Foliis obovato-lanceolatis acuminatis glabris, paniculis terminalibus erectis elongatis, pedicellis fructibus reflexis, calyce ~~sub~~^{parvis} integro, fructifero ~~et~~ aucto.

Sinja Taku~~*Tida tanta*~~? Malay.

Found at Laye on the West Coast of Sumatra.

Stem shrubby, erect, about two feet in height, smooth, with opposite branches, which are thickened at the joints. *Leaves* opposite, short petioled, obovate lanceolate, acuminate, entire, sometimes denticulate, smooth. *Panicle* erect, terminal, long, composed of opposite divaricate ramifications which are subdichotomous, and many flowered. *Pedicels* of the fruit reflexed. *Bracts* large ovate, acuminate, foliaceous. *Calyx* cupshaped, ^{5-toothed} nearly entire. *Corolla* tubular, limb five parted, secund, the lower segment longer, and of a blue color. *Stamina* long, exsert. *Style* one. *Berry* deep purple, resting on the calyx which is scarcely at all enlarged, four lobed, four seeded, from one to three seeds occasionally proving abortive.

